

# Bonded abrasives



## Profile Flat Grinding (Deep Grinding)

For economical reasons deep grinding is used more and more often in profile flat grinding.

The high removal of material per time unit makes high demands on the pore space and profile holding of the abrasive wheel.

Material and Application	Coarse Profile Shape	Smooth Profile Shape
unalloyed and low alloyed, untempered steel eg. Ck 45, 16 MnCr 5	RA7A 60-I14-V3703T1 AA461-Jot15-V20T1 AA 60-L14-V20T3	RA7A100-I13-V3703 RA 80-K15-V20B AA 180-G12-V20T4
unalloyed and low alloyed, tempered steel, eg. Ck 45, 16 MnCr 5	AA7A 60-G12-V3703 PA 80-G13-V20T3	AA7A120-G12-V3703 PA150-G11-V20T4
rust-resistant, acid resistant and heat resistant, untempered steel, eg. turbine paddle made from highly nickelous alloy	AA7A60-M12-V3703 PA 541-G15-V20T2	AA7A 801-M12-V20 PA 120-G13-V20T3
high alloyed, untempered steel, eg. X 165 CrMoV 12	5A7A 461-G12-V3703 PA 461-I27-V606T1 PA 80-H15-V20T2	5A7A100-G12-V3703 AA7A120-G14-V3703 PA120-G13-V20T4
high alloyed, tempered steel, eg. X 165 CrMoV 12	5A7A 461-F13-V3703 GC 801-F31-VFHT3	5A7A120-F13-V3703 GC180-G30-VFHT3
tempered high-speed steel eg. S-6-5-2 (Dmo5)	5A7A 60-E13-V3703 GC 801-E32-VFHT3	5A7A120-E13-V3703 GC1803-E32-VFHT4
all-round abrasive wheel for completely different materials	AA7A 60-H13-V3703 RA 54-H12-V20T2 PA 80-G12-V20T3	AA7A120-H13-V3703 GC1803-H30-VFHT4
special abrasive wheel for low-alloyed, tempered slideway, eg. 100 MnCr 5, GGG 40-70	AA7A 80-G12-V3703 PA 80-G11-V20T3 PA 80-C10-V376T3	AA7A120-G12-V3703 PA120-G13-V3703 PA120-G12-V20T3

## Flat Grinding

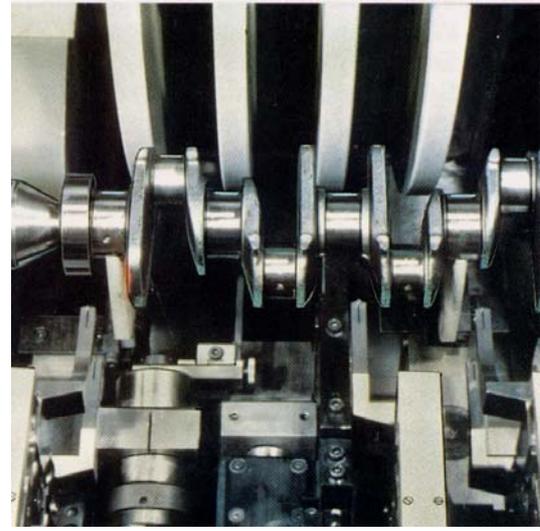
In the following table you can find the ideal working quality for each material group which guarantees a high metal removing rate and economic efficiency.

Material and Application	Straight Line Discs	Segments	Pots and Rings
unalloyed and low alloyed, untempered steel, eg. St 52, C 30, Ck 45	AA7A 46-H5-V3703 PA 36-Jot5-V40E DA 46-M12-V20	RA7A 20/24-E9-V3703 HAA 30-Jot12-V20 DA 24-G5-V15	AA7A 30-I13-V3703 HAA 30-Jot13-V20
unalloyed and low alloyed, tempered steel, eg. Ck 45, 16 MnCr 5	AA7A 46-G5-V3703 RA7A 60-I14-V3703 PA 46-H5-V40E AA 60-K12-V20	RA7A 60-I13-V3703 AA 30-Jot13-V20	AA7A 30-H13-V3703 RA 30-I13-V20
high alloyed, untempered steel, eg. X 165 CrMoV 12	AA7A 46-G5-V3703 PA 36-I5-V40E PA 46-K12-V20 PA 36-Jot5-V40E	AA7A 36-D9-V3703 RA 36-H10-V20A RA 36-I12-V20	AA7A 46-H13-V3703 RA 46-I13-V20

Material and Application	Straight Line Discs	Segments	Pots and Rings
high alloyed, tempered steel, eg. X 165 CrMoV 12	AA7A 46-F5-V3703 PA 46-G4-V40E AA 36-G5-V15 AA 463-K12-V20	AA7A 36/46-C9-V3703 RA 46-I14-V20	AA7A 46-H15-V3703 RA 46-H14-V20
tempered high-speed steel eg. S 6-5-2 (Dmo 5)	5A7A 46-G5-V3703 5A 46-K13-V20 5A 46-H4-V15 5A 463-K12-V20	5A7A 36/46-C9-V3703 5A 46-I14-V20	5A7A 46-H15-V3703 5A 46-H14-V20
rust-resistant, acid resistant and untempered steel eg. X 5 CrNi 18 9	AA7A 46-F5-V3703 PA 46-G4-V15 PA 46-Jot13-V20	AA7A 36/46-H13-V3703 RA 461-H12-V20	AA7A 46-H14-V3703 RA 461-H13-V20
non-ferrous metal eg. aluminium, bronze, brass	RC 60-N12-VECY1	RA 80-H12-V20	RA 60-H13-V20
cast iron, eg. GG 25	DA 46-M12-V20 DA 36-Jot5-V15	DA 30-K12-V20 AA36-Jot6-V20	AA 46-Jot13-V20 DA 30-K13-V20

Comment: We have the qualities mentioned on both sides in the current dimensions on stock.  
In special cases of application please contact our application engineer. We would be pleased to advise you.

## External Cylindrical Grinding



External cylindrical grinding between points in the serial production is mostly used with the infeed method. If there is the adequate stability of machine and work piece, you can obtain a high material removal rate. Further methods are traverse grinding and a chip breaker, where good surface finish is created but only a low-medium metal removal rate, depending on the shape of the work piece. As we could learn from internal and external experiments, the specifications listed below are optimally suitable.

Material	Grinding Operations	Recommendations Standard-Abrasive Wheels	Recommendation 7A-Abrasive Wheel (grinding wheel)
unalloyed and low alloyed, untempered steel, eg. Ck 45, 16 MnCr 5a	traverse grinding vertical approach creep feed grinding angular approach creep feed grinding	DA 60-M5-V15 DA 60-L6-V15 DA 60-O11-V20	HA7A 60-L5-V3703 HA7A 60-K5-V3703 HA7A 60-O11-V3703
unalloyed and low alloyed, tempered steel, eg. Ck 45, 16 MnCr 5	traverse grinding vertical approach creep feed grinding angular approach creep feed grinding	AA 60-L4-V15 AA 60-K4-V15 RA 60-N11-V20	AA7A 60-K5-V3703 AA7A 60-K4-V3703 AA7A 60-N11-V3703
high alloyed, untempered steel, eg. X 165, CrMoV 12	traverse grinding vertical approach creep feed grinding angular approach creep feed grinding	AA 60-L4-V15 AA 80-K4-V15 RA 60-I4-V15	AA7A 60-K5-V3703 AA7A 80-Jot6-V3703 AA7A 60-H5-V3703
high alloyed, tempered steel, eg. X 165, CrMoV 12	traverse grinding vertical approach creep feed grinding angular approach creep feed grinding	AA 603-Jot5-V25 RA 603-I6-V15 RA 603-M11-V20	5A7A 603-I6-V3703 5A7A 603-H6-V3703 5A7A 603-L11-V3703

untempered high-speed steel eg. S-6-5-2 (Dmo5)	traverse grinding plunge-cut grinding	PA 80-M5-V15 GC120-L5-VDT	5A7A 603-I5-V3703 5A7A100-K11-V3703
rust-resistant, acid and heat resistant, not temperable steel, eg. X 5 CrNi 18 9 (VA)	traverse grinding plunge-cut grinding	GC 60 M4-VDT AA 60-I6-V25	AA7A 60-I6-V3703 AA7A 60-H6-V3703
cast iron GG 25 – GGG 70	traverse grinding vertical approach creep feed grinding angular approach creep feed grinding	DA 60-N5-V25 DA 60-M5-V25 AA 60-K5-V15	HA7A 60-M5-V3703 HA7A 607-L5-V3703 AA7A 607-K4-V3703
chilled cast iron	traverse grinding plunge-cut grinding	AA 541-H6-V25 C 60-L4-VDT	AA7A 541-I4-V3703 AA7A 60-H5-V3703

## Parting Grinding Wheels for fixed machines



### Parting Grinding Wheels

for fixed machines, strengthened cloth  
for 80 m/s and 100 m/s operating speed respectively

Our parting grinding wheels feature:

- high cutting rate
- long life
- geometric exact parting cuts
- chilly grinding, no changes in structure and composition of the materials
- minimal burr formation
- high breakage safety and stability
- low noise development

We make parting grinding wheels especially for your specified fields of application. These qualities will then be adjusted to your individual purpose by our application engineers.

Make use of our knowledge! The qualities mentioned in the table below are in stock in the current dimensions.

Materials to be separated	Recommended Standard Specifications
constructional steels	A24-T5-BF80**) A24-T5-BF100 A30-P5-BF80 A30-T5-BF100 EMA20/24-T5-BF100
alloyed steel	BF2061/1 EMA24-BF1905/1 BF3018/4
high alloyed steel, rust- and acid resistant	SA24-P5-BF80A BF2072/8 BF2091/1 BF2126
cast iron	EMA24-BF1952/8      BF2091/1 A-30BFA3010/10
coloured metal, aluminium	C24-R5-BF100 C24-R5-BF80**)
stones, ceramics	C16-R5-BFSA**) C16-O5-BFSA**)

\*\* only for 80 m/s operating speed;

All other parting grinding wheels are allowed for 80 m/s and 100 m/s respectively, DSA-Approval-  
 Number: 1055 for 80 m/s, 610 for 100 m/s

### Deliverable Dimensions:

Wheel Diameter mm	Wheel Width mm	Drill Hole mm
300	3,5	25,4 28 (30) 32 40
350	3,5 4,0	25,4 28 (30) 32 40
400	4,0 4,5	25,4 28 (30) 32 40
450	4,5 5,0	(30) 32 40
500	5,5 6,0	25,4 28 32 40
600	6,5 7,5	40 60
800	8,0 9,0	80 100

## Carboflex Rough – and Parting Grinding Wheels

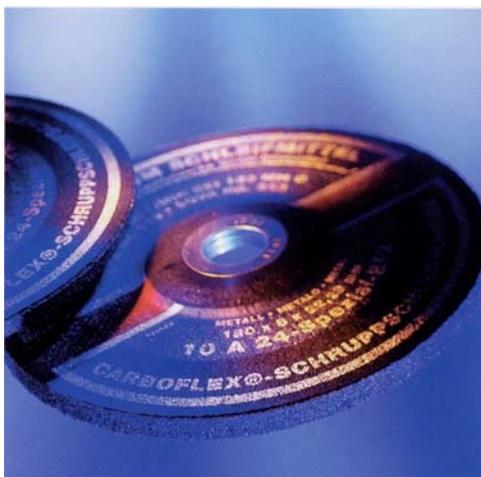
The quality of raw materials and arrangement of the cloth are condition for safety and efficiency of our Carboflex rough and parting wheels.

Highest precision in the production process guarantees a constant quality. The advantages of our Carboflex Rough and Parting wheels are:

- long life
- low set-up times through less disc changes
- cutting propensity
- good grinding results
- high security standards

The choice of the right Carboflex rough- or parting wheel for the different fields of application assume a certain experience. With the following examples of use we would like to help you to find the right quality for your field of application. In case you want to talk to us personally, our team of consultants will be at your disposal

### Carboflex – Rough Grinding Wheels



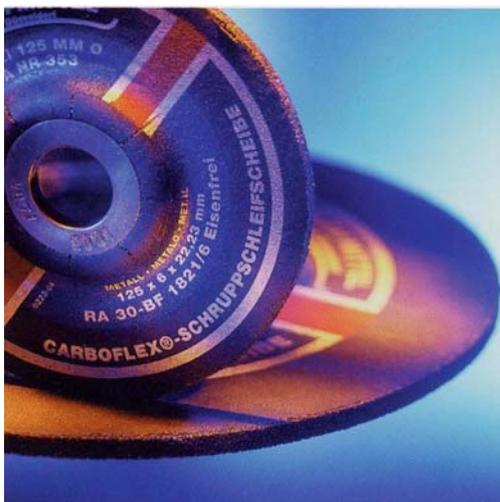
The Carboflex – Rough Grinding Wheels offer a high-quality solution for each field of application. The **A24-R-BF** is an universally applicable, efficient specification for the production. It is especially suitable for low-alloyed steel, grey cast iron and spheroid cast iron.

Another suitable wheel for high-alloyed steels and (steel-grey-spheroid-cast iron) is the 10 **A23 Special BFX**. A high-quality wheel with excellent efficiency and lifetime behaviour.



We recommend the **A24-S-BF** wheel particularly for the grinding of bigger surfaces. It has high chipping and life and is suitable for the treatment of steel, metal, grey- and spheroid cast iron.

Please use A24-T-BF for heavy-duty service. This specification is especially suitable for the working of sharp edges, heavily interrupted surfaces and strong ridges.



Carboflex – **A24 Standard BF** is a product which can be put to various uses. This is an edge-strong wheel with a balanced efficiency- and lifetime behaviour. It is suitable for the use on sheet steel and steel-girder construction, rust-, acid- and heat resistant steels, steel-, grey cast iron and nearly every kind of *NE*-metals.

The standardisation of the dimensions and only one composition ensures a continual production of a high number of pieces at a favourable price. The Special Rough Wheel **RA30-BF 1821** is an alternative which does not contain iron, to work on high-alloyed, rust- and acid-resistant steels.

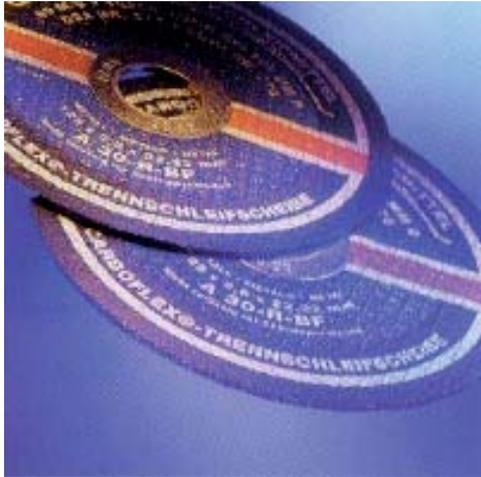
### Deliverable Quantities Carboflex – Rough Grinding Wheels

Specifications of Rough Grinding Wheels	RA30-BF1821	A24 Standard	A24-T-BF	A24-S-BF	A24-R-BF	10A24-Special BFX
115 x 4 x 22,23			x		x	
115 x 6 x 22,23	•	•	x	x	•	x
125 x 4 x 22,23			x		x	
125 x 6 x 22,23	•	•	x	x	•	x
150 x 6 x 22,23			x	x	x	
180 x 4 x 22,23			•		•	
180 x 6 x 22,23	•	•	•	•	•	x
180 x 8 x 22,23	x	•	x	x	•	•
180 x 10 x 22,23			x	x	•	
230 x 4 x 22,23			x		x	
230 x 6 x 22,23	x	•	x	x	x	x
230 x 8 x 22,23	x	•	x	x	•	x
230 x 10 x 22,23			x	x	x	

• = in stock

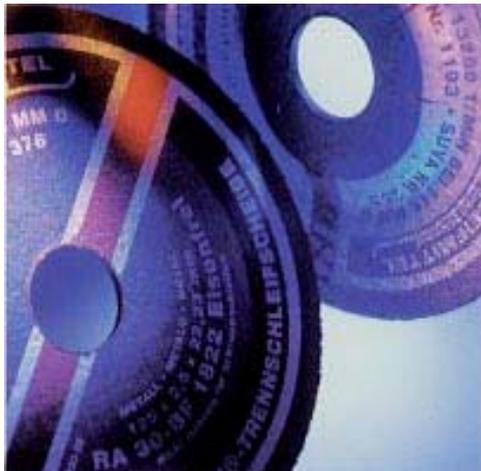
x = special model from 1000 pieces and up

## Carboflex – Parting Grinding Wheels

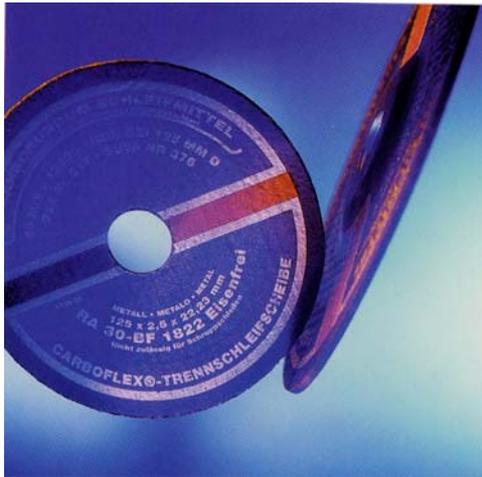


Our rich offer of parting grinding wheels offers a suitable solution for each field of application.

Standard qualities for the parting of steel, steel-, grey- and spheroid cast iron (**A30** and **A24 Standard BF**) and specifications for the universal usage of constructional steel, steel and cast iron (**A24-GL-BF**, **A30-R-BF**, **A24-R-BF**).

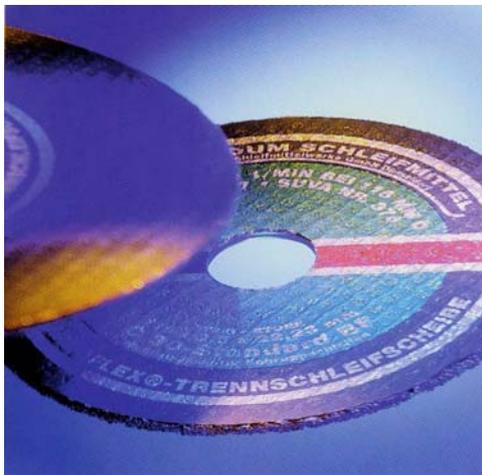


**A30-T-BF** is suitable for special heavy-duty service. It has a high stableness and the grain size **A30** is particularly suitable for the parting of smaller cross-sections and to aim at finer cutting areas.



The iron- and sulphur free **RA30-BF 1822** is a disc for universal treatment of metal with exceptional efficiency.

It is particularly used for the parting of thin stainless steel plates and –profiles as well as thin pipes. When treating stainless steel, unwanted rust film is avoided.



Also for the case of block machining we have suitable solutions!

For sensitive materials (**C30-R-BF**) or hard strains (**C24-R-BF**, **C24-U-BF**) – we can assure you that you will find the best cut-off wheel for sure.

A well-priced standard quality for the parting of stone, artificial stone, clinker and plastics is the **C30 Standard BF** disc.

### Deliverable Dimensions Carboflex – Parting Grinding Wheels

Speci- fication	Wheel Dimension mm														
	straight shape Typ 41									cranked shape Typ 42					
	115x 1x	115x 2,5x	125x 1x	125x 2,5x	150x 2,5x	180x 2x	180x 2,5x	230x 2x	230x 2,5x	115x 2,5x	115x 3,2x	125x 2,5x	180x 3,2x	230x 3,2x	230x 3,5x
	22,23	22,23	22,23	22,23	22,23	22,23	22,23	22,23	22,23	22,23	22,23	22,23	22,23	22,23	22,23
A30-R-BF		†		†	x		†		†	†		x	†	x	
A24-R-BF				†			†		†				x	x	
A30-T-BF		†		†	x		†		†	x		x	x	†	†
A24-GL-BF		†		†			†		†				x	x	
A24 Standard BF							x		x		†		x	x	
A30 Standard BF		†		†			†		†	†			†	x	
RA30-BF1822	†	†	†	†	x		†	†	x	x			x	x	
C30-R-BF		x		x	x		x		†	x	†	x	x	x	
C24-R-BF				†		†	†		x				x	x	
C24-U-BF		†					†		x				x	x	
C30 Standard BF		†					†		x	x			x	x	

† = in stock      x = special model from 1000 pieces and up